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The Army and Space

1958-1984

By Dr. Lewis Bernstein

The Army's interest in exploiting Space has its roots in the ways it has used technology to enhance combat power, always seeking the highest ground to dominate the battlefield. It has used new technology to enhance functions rather than merely seeking improved equipment. These functions included gathering intelligence (to include weather and terrain information and the enemy's location), command and control, communicating messages and killing the enemy. These functions give Soldiers increased powers of observation of the terrain, weather and the enemy, and communication, while denying them to an adversary. Today, our use of Space technologies is the result of a convergence of technological change and doctrinal renaissance.

While the Army has historically sought to use Space to improve battlefield advantage, it did not play a lead role in the development of technology and use of Space between 1958 and 1984. Space had been divided between the U.S. Air Force and NASA. The Army maintained its interest in Space, but was often relegated to a lesser partner as is explained below. By 1984, Army leaders had reasserted the Army's need to use and develop Space and convinced (which) leaders to allow the Army to pursue Space.

Throughout the Second World War, the Army applied its research and development expertise to radar, photography, signals transmission and intelligence, rocket, missile and aircraft development. By 1945 it had taken, processed and analyzed millions of intelligence photographs and its code



The Jupiter Rocket with an Explorer I satellite.

breaking capacity allowed American decision-makers to eavesdrop on enemies, allies and neutrals. The Signal Corps created and operated the largest, secure, unified, global military communications network in existence to that time. The Army had also developed ground-based and airborne radars used in early warning systems and aerial bombardment and along with its air arm it was developing guided missiles. After 1945, the Army still concerned itself with Space age communications and missiles despite the widespread idea that these devices were science fiction.

Through the late 1950s, these efforts were complementary — each capability worked to enhance the other and, although not seen at the time, they were inter-locking. In fact, the Army built and launched the nation's first ballistic missile and earth orbiting satellite. The first communications and reconnaissance satellites were developed and launched through a partnership between private industry and government in which the Army played a prominent part. This link was temporarily broken by the Eisenhower Administration's decision to create NASA and redistribute Space and missile roles

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An artist's conception of TIROS, the first weather satellite.

and missions among the services. Between 1958 and 1961, the Army transferred most of its Space programs and expertise to the National Aeronautics and Space Administration (NASA). Nevertheless, the Army Map Service made the maps of the moon the Apollo astronauts used and the Army Corps of Engineers built most of NASA's launch, test and research facilities.

In the early 1960s the Army's role in Space exploration ended but it retained a role in satellite communications, managing ground terminals and ground support for Space communications systems. By 1967, satellites of the Defense Communications System were relaying photographs and other data from Vietnam to Hawaii and Washington.

Between 1961 and 1975, Vietnam turned the Army from Space and using Space-based instruments as a force multiplier. Satellites did not offer direct tactical aid to the Soldier—assisting communication was the only way Space-based assets intervened in ground fighting. Instead of thinking about Space-based assets that could be used as force multipliers or to shape future wars, the Army moved

to field effective tactical weapons troops could use immediately—thinking about the future was a self-indulgent luxury.

In 1970, the Secretary of Defense allowed each service to conduct research and develop programs that would serve its unique needs for battlefield surveillance, communication, navigation, mapping and charting. However, the Army could not take advantage of this opportunity until it began to think about the future of warfare and its own place on the battlefield.

The Army's post-Vietnam rebirth began with the DePuy reorganization, the doctrinal debates of the late 1970s, which led to creating AirLand Battle Doctrine and the DePuy-Gorman Training Revolution that created the Combat Training Centers. Part of this rebirth was the 1973 creation of the Army Space Program Office to use the Tactical Exploitation of National Capabilities Program to find ways to exploit the tactical potential of national intelligence programs by integrating them and their products into its tactical military decision making process.

Thus, although the Army maintained an interest in Space, it was only used to provide theater commanders with secure long-haul communications systems and access to national intelligence assets through the 1980s. Facing a revived Soviet threat as the Russians reverted to a traditional doctrinal theme—a combined arms approach to warfare that emphasized balanced force development, the Army continued to follow its traditional defensive strategy to contain Russian military expansion in Europe.

The defense budget increases that began after the Soviets invaded Afghanistan in 1979 occurred during an Army-wide doctrinal debate begun by General DePuy. This debate was the direct stimulus to re-evaluating the role of Space assets. It was then that the Army determined the ground commander's needs required it return to Space. Space-related activities offered the ground commander unique platforms for observation, positioning, and communications over a greatly expanded battlefield. At the same time, there was also a growing disquietude in Soviet military journals as various authors analyzed AirLand Battle Doctrine. The cozy world of Soviet military planning was disturbed by the ways the U.S. Army assimilated new technology into military theory, doctrine, and equipment.

The Army proceeded deliberately with concepts followed by long-range planning and investment in programs. It was prodded by its growing needs for the products that Space systems would provide ground forces. Although satellite intelligence and surveillance capabilities garnered the most attention, the Army used Space assets to multiply its abilities to deter, detour, and defeat an enemy. The other services formed Space commands to centralize and coordinate their efforts to use Space. In 1982, the Air Force, as the lead armed service in Space, established U.S. Air Force Space Command (AFSPC) to consolidate operational Space activities and support Space operations, including satellite control and DoD Space shuttle flight planning, readiness, and command and control. In 1983, the Navy, dependent upon a world-wide communications and intelligence network for its surface and submarine fleet operations, formed Naval Space Command.

President Reagan's announcement of the Strategic Defense Initiative in March 1983 challenged the Army to think about Space in new ways. The Army slowly began to pay attention to its Space role conceptually and organizationally. In 1983, the Army Science Board concluded the Army was not using Space systems to their full potential; to achieve better exploitation a high-level commitment had to be matched by sufficient resources. The 1983 invasion of Grenada highlighted the scramble for limited Space assets between different services and government levels. The Army had used the other services' systems too long, and they assigned the Army the leftovers in a crisis situation. The Combined Arms Grenada Work Group recommended the

Army develop, own, and control its own satellites to assure critical communications in such operations.

Later in 1983, an Army Space General Officer Working Group was founded to direct Army Space efforts. In 1984, the Army Science Board concluded that the Army made limited use of Space assets and was neither active nor influential in designing and operating most of the Space systems then in use. In August 1984, an Army Space Council was created in Washington to coordinate and approve proposals and provide direction for the Army's involvement in and use of Space among various functionally organized staff offices.

In September 1984 General Maxwell Thurman, the Vice Chief of Staff of the Army (VCSA) activated an Army Staff Field Element at AFSPC headquarters, the nascent form of the U. S. Army Space and Missile Defense Command—Colorado Springs. The Field Element acted as liaison to AFSPC and initiated planning for Army participation in the unified U.S. Space Command. It exchanged information about Space policy, strategy and plans, monitored Army Space-related education and training developments, represented the Army Space Office at HQ Space Command and provided technical information regarding Army Space efforts. In October 1984, the Army Space Council met to discuss the Army's emerging role in Space and produced guidance for future Army efforts. Thus, the Army created a staff organization to manage its Space activities after the other services. Although the Army's interest in and influence over the role of Space in military operations had decreased as the role of Space in military operations expanded, this would change.

By the end of 1984, the Army was poised to expand its Space activities. The Army Management Structure for Space had four components: (1) an Army Space Council, (2) the Army Space Working Group, supporting the Space Council, (3) the Army Space Office, serving as liaison to the Joint Staff and the Office of the Secretary of Defense and (4) the Army Staff Field Element of AFSPC. The Army Space Office had five immediate tasks: to (1) develop an Army Space policy, (2) create an inventory of existing Army Space-related requirements and programs, (3) create immediate enhancements to key areas of Army Space involvement, (4) to develop an operational concept for Space support to warfighting, and (5) develop Army options for supporting a unified Space command. Thus, the Army was poised to begin to use Space again.

Lewis Bernstein is a Senior Historian in the SMDC Historical Office. Previously, he worked in the Combined Arms Center History Office at Fort Leavenworth where he was involved in creating a digital archive and engaged in research on Army training and experimental units. Before joining the government, he was a professor of history at Brigham Young University and Boise State University where he taught Chinese and Japanese history. He has also been a Fulbright fellow.